

## Smart Web Based Application for Smartphone Addiction

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**Abstract:** In this rapidly developing world where everything is stepping forward, technology is no behind. Technology has done such kind of transformations that seemed to be impossible to even imaginethem few years ago. No doubt it has been serving millions of people with its advantages and features. But the side effects of the same cannot be neglected. Today the world is so much involved into technology especially smartphones that they are not only affecting them physically but also mentally. So it's a high time people especially young adults cut off and limit its use. The idea of this paper exactly serves the same. We implement this system using an Android app where user need to set a time limit for any particular user downloaded app which will get blocked if the time limit is exceeded by the user. This will help those who are addicted to smartphones.

**Keywords-** smartphone addiction, daily usage, android, mobile application, web based application

### I. INTRODUCTION

According to a recent survey [6],the number of smartphones has crossed 1 billion and still counting. It will be in near future that most of the people on this earth would own a smartphone. Therefore,it has now become a daily routine of many people to now and then check the smartphones. So it now becomes all the more important to be aware of its negative side as well and get rid of the term "Smartphone addiction".According to a study [7] of an organisation help guide, smartphone addiction is also famously called "nomophobia" which means fear of being without a mobile phone. It also mentions various effects of smartphone addiction that include increasing loneliness and depression, fuelling anxiety, increasing stress, disturbing your sleep and many more.

Also it is not that people addicted to smartphones do not want to get rid of it. They are very well aware of its disadvantages and consequences. There are many ways to overcome smart phone addiction according to a study [8] of yahoo news that lists 15 ways for overcoming smartphone addiction. Some of which includes deleting social media apps, turning off phone before going to bed, etc. One of which ways mentioned is setting specific boundaries for smartphone usage. This is what exactly this system does. And it is a well known saying that solution lies where the problem is. So what better way to limit smartphone usage than using this system in smartphone itself. Like other social media apps gives you notifications now and then and you end up using your smartphone for hours, this system would also notify you frequently and make you remind of your goal which is overcoming smartphone addiction.

It is a very shocking and disturbing fact that was brought to light through a study[9] that stated that children as young as 13 are attending smartphone rehab and are being treated for digital technology addiction. A child psychotherapist Julie Lynn Evans had said that her workload has significantly increased since the use of smartphones became widespread among young people. She told, "It's a simplistic view, but I think it is the ubiquity of broadband and smartphones that has changed the pace and power and the drama of mental illness in young people." Keeping this in mind this system has features like parental control.

The main objectives of this system includes- i)let user set daily time for a particular app. ii)block the app after it exceeds its time limit. iii)providing parental control through a website. The main idea of this system is providing an app that takes the daily user time limit as its input, continuously check whether that limit has not been extended and once exceeded it will block that app for further use. The simple reason for so is that user will temporarily be unavailable to use that app and this will gradually help user in getting rid of the smartphones. The major advantage of this system is it can be used by all kinds of users, whether they are smartphone worm i.e. they use smartphone for a very long time or they are a little less addicted to their smartphones because it is a total customized system where user can give its own daily time limit. For example, if any person is addicted to smartphone very much, he/she can for a beginning set a little higher time limit and can gradually decrease its limit over a period of time.

This system's main role comes when an user exceeds it's given time limit. In such cases this system will forcefully close that particular app and will block it temporarily for further use until the next day. It may so happen that the user would require that blocked app later that day for some kind of important work or in case of emergency. For example a scenario where Whatsapp, a major chat application is blocked for that particular day

but user wants it immediately due to some important message scheduled to receive. In that emergency, imagine that your application is still blocked and you are stucked. Keeping that situation in mind, this system also gives it's user a chance to unblock the application for emergency cases. Though this feature doesn't look much important but it is if you pay a proper attention on this.

Another major feature of this system that distinguishes itself from other available systems is it's parental control feature. Thanks to this feature, parents can now keep an eye on their kids and how much are they glued to their phones. Parents just need to login to the website through the children's login id and view the daily usage of each app of children's phone. This website designed serves this feature. Website will get updated by daily usage information on regular basis as and when used by the user. On logging in to website, the same usage information would get displayed.

## II. LITERATURE SURVEY

WenjieRaun, Quan Z. Sheng et al.[1]has designed, implemented and verified a solution to effectively detect and prevent one of the unhealthy behaviors: using smartphones in darkness. In their future work, they will investigate how to detect other problematic usage of smartphones based on built-in sensors and human-phone interaction contexts, such as using phone when driving a car, playing smartphone while walking/power charging or playing smartphone for extremely over-usage (Smartphone Addiction).

ThoniwutRapeepisarn, SupasinTatiyanupanwong et al.[2] has proposed an application that can keep track and collect information about smartphone usage, measure percentage and level of smartphone addiction as well as provide basic knowledge about smartphone addiction, smartphone syndrome, and yoga. In addition, the application offers a yoga treatment solution to prevent and relieve symptoms caused by smartphone addiction syndrome.

It includes comparison of this application and existing application across 7 aspects which are supported OS, show application in use, total application time usage, measure addiction level based on time, notification, treatment, and lock screen. Flipd, Offtime, and Time Lock provide automatic push notification, and screen lock function while Flipd and Moment provide total time usage. However, none of them provide users with the information about treatment.

Shraddha M.Gurav, Leena S. Gawade et al.[3]gives information regarding various graphical techniques for authentication which are image based, triangular based, grid based, hybrid-texture authentication, signature based.

Chongyang Chen, Kem Z. K. Zhang, Sesia J. Zhao, Matthew K. O. Lee, Tianjiao Cong[4] says that by compared with other information technologies (e.g., desk computers), smartphones are being used anytime anywhere, which shows the unique phenomenon of extensive exposure. However, to date, the information system literature still doesn't fully understand the association between extensive exposure and information technology usage.

Mingyuan Xia, Lu Gong, Yuanhao Lyu, Zhengwei Qi, Xue Liu[5] conveys that Mobile applications can access both sensitive personal data and the network, giving rise to threats of data leaks. App auditing is a fundamental program analysis task to reveal such leaks.

## III. PROPOSED SYSTEM

This system mainly comprises of an android mobile application along with a website. Importance of each of them is discussed above. Flow of the system is shown as below:

Application :

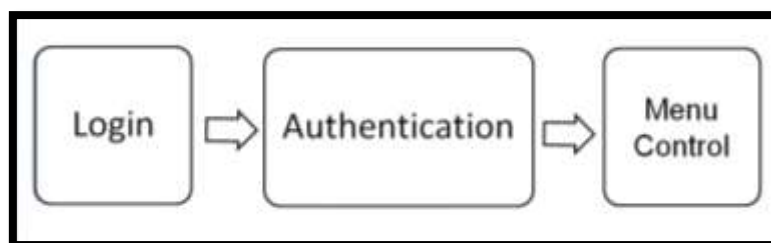


Fig. 1: Application Flow

Application flow diagram is shown in the figure 1 wherein user first tries to login and after the authentication the screen will display menu control options which is further explained in the next diagram.

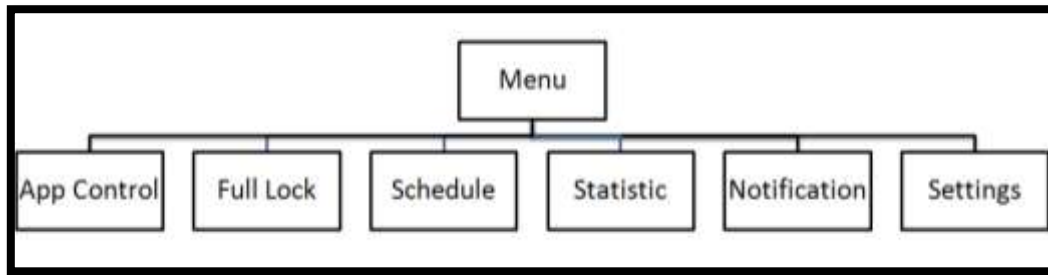


Fig. 2: Menu Flow

Figure 2 shows the menu flow for the system's application. Menu control will have options like app control, full lock, schedule, statistic, notification, settings.

Website:

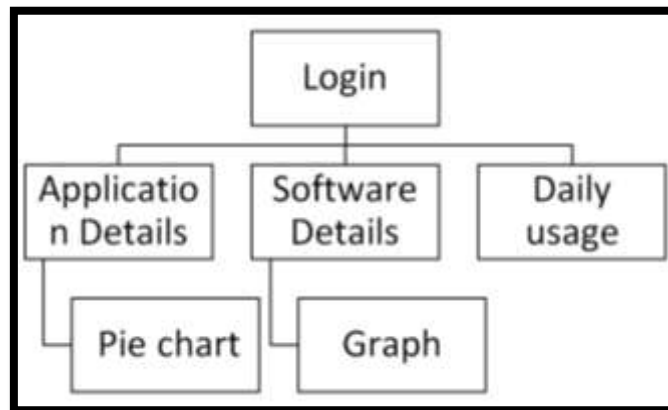


Fig. 3: Website flow

Flow of the website is shown in the figure 3. After user logs in it will have three options to choose from which are application details, software details and daily usage. Application details will be displayed in pie chart whereas software details will be displayed in graph.

Blocking/Unblocking of applications :

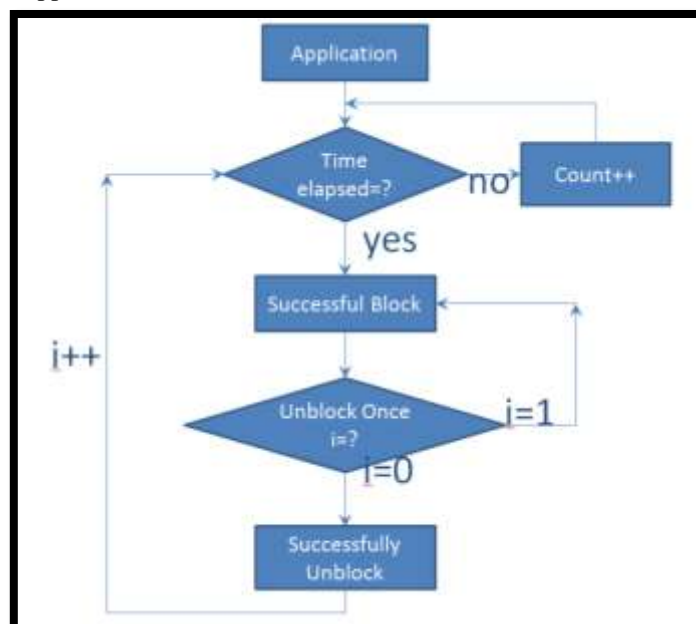


Fig. 4: Blocking Flowchart

One of the strongest feature of this system is blocking of applications or software on over-usage so it is important to know the flow of how it will actually happened. It is shown in the figure 4.

The system will continuously run in the background even while using other systems and it will keep recording the time usage. It will check whether time is elapsed or not. If not then count is incremented else the software is blocked. Now there is one unblock condition for emergency cases where user will be allowed to unblock the application once only.

#### IV. EXPECTED RESULT

With increasing technology in world, addiction towards smartphones is increasing day by day. According to a survey[10] children in the age from 13-17 are spending more time on social media platforms. This paper presents the design and implementation of the web based application. This app has three major use cases. i) have control on App usage and Block application after certain period of time. ii) parental control. iii) graphical password for authentication. This web based application provides static representation of daily usage on website , in app as well as on software, so that user can track daily usage or wastage of time because of smartphones. In future the functionality of this web based application can be extended to support more languages as well as to support iOS.

#### V. CONCLUSION

Mobile phone overuse (Mobile-phone addiction or problem mobile phone use) is a dependence syndrome seen among certain mobile phone users. Some mobile phone users exhibit problematic behaviors related to substance use disorders. We came through various articles [11] [12] which gives information about problematic behaviour of smartphone addiction. These behaviors can include preoccupation with mobile communication, excessive money or time spent on mobile phones, use of mobile phones in socially or physically inappropriate situations such as driving an automobile. Increased use can also lead to increased time on mobile communication, adverse effects on relationships, and anxiety if separated from a mobile phone or sufficient signal.

Basically this system provides parental control which includes blocking of software and application on over-usage. Parental control is provided by website which contains usage information of both application and software.

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We are making this project not only for marks but to also increase our knowledge

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